

REMARKS

Applicants respectfully request the entry of the foregoing amendments and consideration of the remarks. Claims 1-10, 13, and 20-23 are pending in the application. Claims 1-10, 13, and 20-23 have been canceled. Claims 24-58 have been added. No claims have been allowed.

Claim Rejections under 35 U.S.C. § 112

Claims 1-10 were rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter insufficiently described. Claims 1-10 have been canceled herein. Applicants respectfully request the Examiner to withdraw the rejections under 35 U.S.C. § 112. Applicants further submit that the new claims are fully supported by the specification and drawings as filed.

Claim Rejections under 35 U.S.C. § 102

Claims 20-23 were rejected under 35 U.S.C. § 102 (b) as being anticipated by Meehan (U.S. Patent No. 5,347,536). Claims 20-23 have been canceled. Applicants respectfully submit that new claims 24-58 are patentable over the prior art.

Meehan discloses a method for multipath noise reduction. Meehan teaches calculating a delay tracking error using an output of a prompt correlator and an output of an early correlator. The method includes multiplying the output of the prompt correlator by a stored constant. Applicants respectfully assert that Meehan fails to teach or suggest the claimed invention, which includes detecting a multipath error in a received signal based on at least one relationship between an amplitude of an early correlation product, an amplitude of a prompt correlation product and an amplitude of a late correlation product, for example as in Claim 24.

Meehan instead teaches using an output of a prompt correlator and an output of an early correlator in an algorithm, including multiplying the output of the prompt correlator

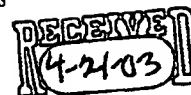
by a stored constant. See, for example, Figure 13 of Meehan, which shows early and prompt correlation results being summed in summers 140 and 135 before being transmitted to tracking processor 150. Meehan completely fails to disclose a late correlation. At least for these reasons, Applicants respectfully submit the invention of claim 24 is not anticipated by Meehan.

Claim 35 includes an apparatus for receiving a signal, including an error detector coupled to a receiver and to a code generator, wherein the error detector detects code phase error in the received signal based on at least one relationship between a first correlation product of an early code phase delayed version of the code replica and the received signal, a second correlation product of a prompt code phase delayed version of the code replica and the received signal, and a third correlation product of a late code phase delayed version of the code replica and the received signal. Meehan does not teach or suggest such an apparatus. Therefore, Applicants respectfully submit the invention of claim 35 is not anticipated by Meehan.

Claim 47 includes a multipath error detector means for detecting a multipath error in a received GPS signal based on at least one relationship between a first correlation product of the received GPS signal with a first PN code phase delayed replica, a second correlation product of the received GPS signal with a second PN code phase delayed replica, and a third correlation product of the received GPS signal with a third PN code phase delayed replica. Meehan fails to teach or suggest at least such an error detector means. Therefore, Applicants respectfully submit the invention of claim 47 is not anticipated by Meehan.

Dependent claims 25-34, 36-46, and 48-58 include further limitations on their respective allowable base claims. Applicants therefore respectfully submit that dependent claims 25-34, 36-46, and 48-58 are likewise allowable over the prior art.

Official



CONCLUSION

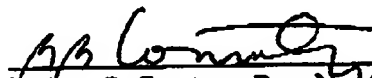
In view of the foregoing amendments and remarks, Applicants respectfully submit that claims 24-58 are in condition for allowance. The allowance of the claims is requested. The Examiner is invited to call the undersigned if there are any issues that remain to be resolved prior to allowance of the claims.

AUTHORIZATION TO CHARGE DEPOSIT ACCOUNT

Please charge deposit account 501914 for any fees due in connection with this Office Action response.

Respectfully submitted,

Date: April 21, 2003


Barbara B. Courtney, Reg. No. 42,442
Tel. 408-236-6647